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THE WORKING SESSION.

The afternoon of Thursday of the week of meeting, by action of the Executive Committee, was devoted to the practical exhibition and explanation of methods of manipulation and investigation. This is a distinctive feature of the annual meeting, and one likely to be continued with increasing interest and benefit to members of the Society. It is a systematic effort to increase interest and improvement in *technique*, which is as essential to successful investigation as good instruments and perseverance. Concerning the success and usefulness of such practical sessions as the one this year and that of last year at Chicago, there can be no question; there is no dispute. It may be confidently expected that future sessions for exhibition and instruction may be not less but more profitable.

The programme prepared for the hour is reprinted below, followed by short descriptions of methods explained at the time, and also by questions asked by various parties and answered by experts. Some of the papers included elsewhere in the Proceedings, *e. g.*, the paper by Dr. James on Methods of Silvering on Glass, were written for this session, but, on account of length and general interest, were read at previous sessions and are printed in connection with the general papers.

To the labors of Mr. E. H. Griffith, under whose direction the session was conducted, very much of the success of this feature of the meeting may be attributed.

PROGRAMME.—WORKING SESSION.

Free Academy, Rochester, N. Y., Thursday afternoon, Aug. 21, 1884.

E. H. GRIFFITH, A. M., F. R. M. S., in Charge.

The session for showing methods of work will begin promptly at 2 P. M., and will continue until 5 o'clock, with a change of programme each hour. The first hour will be devoted to preparatory work; the second to finishing work, and the third to questions and discussions.

Tables will be arranged in the large hall of the Free Academy, and at each table one or more expert Microscopists will show favorite methods by actual work.

Members wishing instruction in any special work will please make the request known.

Table No. 1.

REV. J. T. BROWNELL, A. M., - - - - AUBURN, N. Y.

1st Hour—Making Brownell's sweat-proof wax-cells for opaque objects.

2d " Staining and mounting pollens.

Table No. 2.

PROF. T. J. BURRILL, Ph. D., F. R. M. S., Illinois Industrial University,
CHAMPAIGN, ILL.

1st Hour—Measuring the power of objectives and oculars.

2d " Cultivating bacteria—flask method.

Table No. 3.

GEO. DUFFIELD, M. D., Microscopist to Harper Hospital, DETROIT, MICH.

1st Hour—Cutting tumor-sections with the Schanzli Microtome.

2d " Mounting tumor-sections in balsam.

Table No. 4.

H. J. DETMERS, M. D., F. R. M. S., - - - CHAMPAIGN, ILL.

1st Hour—Mounting fresh animal tissues.

Table No. 5.

D. V. DEAN, M. D., Sup't and Surgeon City Hospital, - ST. LOUIS, MO.
General microscopical work.

Table No. 6.

PROF. SIMON H. GAGE, B. S., Cornell University, - ITHACA, N. Y.

1st Hour—Preparation of serial sections and staining them on the slide.

Table No. 7.

F. M. HAMLIN, M. D., - - - - AUBURN, N. Y.

1st Hour—Mounting opaque objects in Hamlin's wooden cells.

2d " Mounting in liquids, solution of chloral, carbolic acid, etc.

Table No. 8.

GEN. WM. HUMPHREY, - - - - ADRIAN, MICH.

1st Hour—Cutting vegetable sections with Rivet's Microtome.

2d " Mounting in balsam, glycerine, etc.

Table No. 9.

PROF. J. D. HYATT, - - - - MORRISANIA, N. Y.

Showing multiple images in compound eyes of insects.

Table No. 10.

FRANK L. JAMES, Ph. D., M. D., - - - ST. LOUIS, MO.

1st Hour—Making cements, reagents, etc.

2d " Silvering mirrors.

Table No. 11.

A. B. LECKENBY, - - - - ROCHESTER, N. Y.

Cutting vegetable sections and mounting immediately.

Table No. 12.

PROF. S. A. LATTIMORE, LL. D., Rochester University, ROCHESTER, N. Y.
 Methods of separating from fluids floating, suspended or sedimentary
 substances for microscopical examination.

Table No. 13.

JOS. N. LEVI, Esq., - - - - - ROCHESTER, N. Y.
 1st Hour—Making wax-cells for transparent and for opaque objects.
 2d " "

Table No. 14.

PROF. ALLAN Y. MOORE, M. D., Cleveland Homeo. Med. Col.,
 CLEVELAND, O.
 1st Hour—General microscopical work.
 2d " General microscopical work.

Table No. 15.

J. T. MAIN, M. D., Pres't Jackson Microscopical Society, JACKSON, MICH.
 1st Hour—Imbedding and cutting whole sections of kidney.
 2d " Mounting kidney sections, etc.

Table No. 16.

HENRY MILLS, Esq., - - - - - BUFFALO, N. Y.
 1st Hour—How to prepare sponges for mounting their spicules.

Table No. 17.

A. CLIFFORD MERCER, M. D., F. R. M. S., - - - SYRACUSE, N. Y.
 1st Hour—Cutting sections with Williams' freezing microtome.
 2d " "

Table No. 18.

F. S. NEWCOMER, M. D., Pres't Indianapolis Micro. Soc., INDIANAPOLIS, IND.
 1st Hour—Cleaning diatoms.
 2d " Arranging and mounting diatoms.

Table No. 19.

WM. M. REBAZ, - - - - - ROCHESTER, N. Y.
 1st Hour—Making shellac-cells for microscopical mounts.
 2d " "

Table No. 20.

R. N. REYNOLDS, Treas. Griffith Club of Microscopy, - - DETROIT, MICH.
 1st Hour—General microscopical work.
 2d " Mounting in balsam and in glycerine.

Table No. 21.

PROF. W. A. ROGERS, A. M., F. R. M. S., Harvard College Observatory,
 CAMBRIDGE, MASS.
 Methods of dry mounting, and methods of measurements with a micro-
 scope comparator.

Table No. 22.

PROF. C. H. STOWELL, M. D., F. R. M. S., University of Michigan,
 ANN ARBOR.
 Counting blood corpuscles.
 PROF. LOUISA REED STOWELL, M. S., University of Michigan,
 ANN ARBOR.
 Showing circulation of protoplasm in the vegetable kingdom.

Table No. 23.

PROF. J. O. STILLSON, M. D., College of Physicians and Surgeons,
INDIANAPOLIS, IND.
1st Hour—General work.
2d " Mounting insects.

Table No. 24.

GEORGE C. TAYLOR, "Grey-Beard," - - - - THIBODEAUX, LA.
The working of Taylor's Diaphragm Lamp.

Table No. 25.

CHAS. SHEPARD, M. D., - - - - GRAND RAPIDS, MICH.
1st Hour—Dr. Shepard's cells for mineral mounts.
2d " Mounting mineral specimens.

Table No. 26.

MR. AND MRS. CHAS. WELLINGTON, - - - - JACKSON, MICH.
1st Hour—General preparatory work.
2d " Mounting sponge spicules, etc., in glycerine.

Table No. 27.

W. S. WHITE, Esq., Photographer, - - - - KALAMAZOO, MICH.
1st Hour—Making Griffith cells.
2d " Transferring micro-photographs from charms to slides.

Table No. 28.

JAS. E. WHITNEY, Esq., - - - - ROCHESTER, N. Y.
1st Hour—Cell making and general preparatory work.
2d " Rapid method of mounting opaque objects.

SERIAL SECTIONS.

S. H. GAGE, B. S., Ithaca, N. Y.

For the investigation and understanding of embryological and histological facts, only next in importance to the proper hardening of the specimens, is the method of serial sectioning and mounting; for the parts may then be compared in the sequence occupied in the animal or part, and the most delicate or loosely connected parts are preserved *in situ*. One of the most satisfactory methods of procedure is to remove completely all the water from a specimen, after it has been properly hardened, by using 95 per cent. or stronger alcohol, and then to immerse it in chloroform two or three hours, or preferably